



# UNITED STATES PATENT AND TRADEMARK OFFICE

14  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,287	02/27/2004	Morgan T. Johnson	ML.P007-8	8191
41536	7590	04/20/2005	EXAMINER	
RAYMOND J. WERNER 2056 NW ALOCLEK DRIVE, SUITE 314 HILLSBORO, OR 97124				ARBES, CARL J
ART UNIT		PAPER NUMBER		
3729				DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/789,287

Applicant(s)

JOHNSON, MORGAN T.

Examiner

C. J. Arbes

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 19 January 2005.  
2a) This action is FINAL.      2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 3,15-17,19 and 20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_\_ is/are allowed.  
6) Claim(s) 3,15-17,19 and 20 is/are rejected.  
7) Claim(s) \_\_\_\_\_ is/are objected to.  
8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on 27 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_.

Art Unit: 3729

In view of the Examiner searching and learning of additional pertinent prior art which is applicable to the claimed invention the following **non-Final Office Action** is provided hereinbelow.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 3 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Boggs (Pat No. 4,935,584) hereinafter Boggs. The document speaks for itself. Moreover many of the details of this prior art are elucidated hereinbelow.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boggs.

Boggs teaches a method of fabricating a printed circuit board (PcB) from a plurality of connector slices (or substrates with conductor layers) with each connector slice having through-holes, stacking the plurality of connector slices, one atop the other (Cf. e.g., Fig 3) in alignment such that the major surfaces face one another and each through-hole is coaxially aligned with corresponding through-holes of the other connector slices. The through holes are plated. (Cf Col. 2) The stacked connector slices are adhered to each

other by means of a liquid adhesive (Cf. Col 3) One can construe the substrate immediately below the arrow head for element 40 (In Fig 3) of Boggs as a sheet which is provided between at least one pair of stacked connector slices as recited in Applicant's claimed invention. It would have been obvious to between at least a pair of stacked connector slices which are coaxially aligned since the tight sheet would insure that the claimed invention would be operative. Alternatively inasmuch as the term "tight" is a relative term, it is held that the sheet disclosed by Boggs is tight per se. That is what does Applicant mean or intend by the term "tight"? As applied to Claim 16 it is also held to have been obvious to provide that the "tight-sheet" material is flex material inasmuch as Boggs discloses that it is old to manufacture both rigid and flexible multilayer circuit boards from multiple component sheets having through-holes therein. As applied to Claim 17 it is seen from Boggs' Figs 4 and 5 that there are through-holes having different circumferences (or diameters). Hence it is held to be mere design choice to provide the limitation as recited in claim 17. That is there is no specific purpose therefore nor any specific problem solved thereby.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4563. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
C. J. Arbes  
Primary Examiner  
Art Unit 3729